

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A process for increasing the yield of plants comprising transforming a plant with at least one recombinant DNA construct comprising
  - (a) a region allowing the transcription specifically in the companion cells; and operatively linked thereto
  - (b) a nucleotide sequence encoding a polypeptide selected from the group consisting of:
    - ~~(e)~~(i) proteins with an enzymatic activity that cleaves sucrose;
    - ~~(d)~~(ii) sucrose transporters;
    - ~~(e)~~(iii) proteins the activity of which leads to the stimulation of the proton gradients located at the plasma membrane of plant cells; and
    - ~~(f)~~(iv) citrate synthases;wherein said at least one construct is stably integrated into the genome of said plant and wherein the expression of said nucleotide results in an increase in plant yield.
2. **(Original)** The process of claim 1, wherein the nucleotide sequence encodes a plant protein.
3. **(Original)** The process of claim 1, wherein the nucleotide sequence encodes a protein from a bacterium or a fungus.
4. **(Withdrawn)** The process of claim 1, wherein the nucleotide sequence encodes a protein with an enzymatic activity that cleaves sucrose, selected from the group consisting of sucrose synthases, sucrose phosphorylases and invertases.
5. **(Original)** The process of claim 1, wherein the nucleotide sequence encodes a sucrose transporter from *Spinacia oleracea*.

6. **(Withdrawn)** The process of claim 1, wherein the nucleotide sequence encodes a proton ATPase.
7. **(Withdrawn)** The process of claim 6, wherein the nucleotide sequence encodes a proton ATPase from *Solanum tuberosum* or from *Saccharomyces cerevisiae*.
8. **(Previously Presented)** The process according to claim 1, wherein the region mentioned in (a) is the *rolC* promoter from *Agrobacterium rhizogenes*.
9. **(Currently Amended)** A recombinant nucleic acid molecule comprising
  - (a) a region allowing the transcription specifically in the companion cells of plants; and  
operatively linked thereto
  - (b) a nucleotide sequence encoding a polypeptide selected from the group consisting of
    - (i) sucrose synthases;
    - (ii) sucrose phosphorylases;
    - (iii) sucrose transporters;
    - (iv) proteins the activity of which leads to the stimulation of the proton gradient located at the plasma membrane of plant cells; and
    - (v) citrate synthases,wherein said recombinant nucleic acid molecule, when stably integrated into the genome of plants and expressed, leads to an increase of the yields of plants.
10. **(Currently Amended)** A vector comprising ~~a~~the recombinant nucleic acid molecule of claim 9.
11. **(Currently Amended)** The vector of claim 10, wherein the vector is suitable for transformation of plant cells and for integration of foreign DNA into the plant genome.

12. **(Previously Presented)** A plant cell transformed with and comprising a recombinant nucleic acid molecule of claim 9.
13. **(Previously Presented)** A plant comprising plant cells of claim 12, wherein the plant shows an increased yield in comparison to a corresponding non-transformed plant due to the expression of the recombinant nucleic acid molecule in the companion cells of the plant.
14. **(Currently Amended)** Propagation material of a plant of claim 13, ~~wherein said propagation material contains plant cells of claim 12.~~
15. **(Canceled)**
16. **(Currently Amended)** A process for increasing the yield of plants, comprising transforming a plant with at least one recombinant DNA construct comprising
  - (a) a region allowing the transcription specifically in the companion cells; and operatively linked thereto
  - (b) a nucleotide sequence encoding a sucrose transporter polypeptide,wherein said at least one construct is stably integrated into the genome of the plant and wherein said nucleotide sequence is expressed resulting in increased plant yield.
17. **(Previously Presented)** The process of claim 16, wherein the nucleotide sequence encodes a plant protein.
18. **(Previously Presented)** The process of claim 16, wherein the nucleotide sequence encodes a protein from a bacterium or a fungus.
19. **(Previously Presented)** The process of claim 16, wherein the nucleotide sequence encodes a sucrose transporter from *Spinacia oleracea*.

20. **(Previously Presented)** The process according to claim 16, wherein the region mentioned in (a) is the *rolC* promoter from *Agrobacterium rhizogenes*.
21. **(Previously Presented)** A recombinant nucleic acid molecule comprising
- (a) a region allowing the transcription specifically in the companion cells of plants; and  
operatively linked thereto
  - (b) a nucleotide sequence encoding a sucrose transporter polypeptide,  
wherein said recombinant nucleic acid molecule, when stably integrated into the genome of plants and expressed, leads to an increase in plant yield.
22. **(Currently Amended)** A vector comprising ~~a~~the recombinant nucleic acid molecule of claim 21.
23. **(Currently Amended)** The vector of claim 22, wherein the vector is suitable for transformation of plant cells and for integration of foreign DNA into the plant genome.
24. **(Currently Amended)** A plant cell transformed with and comprising ~~a~~the recombinant nucleic acid molecule of claim 21.
25. **(Previously Presented)** A plant comprising plant cells of claim 24, wherein the plant shows an increased yield in comparison to a corresponding non-transformed plant due to the expression of the recombinant nucleic acid molecule in the companion cells of the plant.
26. **(Currently Amended)** Propagation material of a plant of claim 25, ~~wherein said propagation material contains plant cells of claim 21.~~
27. **(Currently Amended)** A process for improving phloem loading comprising transforming a plant with at least one recombinant DNA construct comprising

- (a) a region allowing the transcription specifically in the companion cells; and operatively linked thereto
  - (b) a nucleotide sequence encoding a sucrose transporter polypeptide, wherein said at least one construct is stably integrated into the plant genome and wherein expression of said nucleotide sequence results in an increase in plant yield.
28. **(Previously Presented)** The process of claim 27, wherein the nucleotide sequence encodes a plant protein.
29. **(Previously Presented)** The process of claim 27, wherein the nucleotide sequence encodes a protein from a bacterium or a fungus.
30. **(Previously Presented)** The process of claim 27, wherein the nucleotide sequence encodes a sucrose transporter from *Spinacia oleracea*.
31. **(Previously Presented)** The process according to claim 27, wherein the region mentioned in (a) is the *rolC* promoter from *Agrobacterium rhizogenes*.
32. **(Previously Presented)** A recombinant nucleic acid molecule comprising
- (a) a region allowing the transcription specifically in the companion cells of plants; and operatively linked thereto
  - (b) a nucleotide sequence encoding a sucrose transporter polypeptide, wherein said recombinant nucleic acid molecule, when stably integrated into the genome of plants and expressed, leads to improved phloem loading.
33. **(Currently Amended)** A vector comprising a the recombinant nucleic acid molecule of claim 32.

34. **(Previously Presented)** The vector of claim 33, wherein the vector is suitable for transformation of plant cells and for integration of foreign DNA into the plant genome.
35. **(Currently Amended)** A plant cell transformed with and comprising ~~a~~ the recombinant nucleic acid molecule of claim 32.
36. **(Previously Presented)** A plant comprising plant cells of claim 35, wherein the plant shows an increased yield in comparison to a corresponding non-transformed plant due to the expression of the recombinant nucleic acid molecule in the companion cells of the plant.
37. **(Currently Amended)** Propagation material of a plant of claim 36, ~~wherein said propagation material contains plant cells of claim 32.~~